

PRESENTATION SUMMARY



- Introduction
 - Overview (*M. Ryan*)
 - Geography
 - Living with the Red (*M. Clamen*)
 - Conclusions and Recommendations
- Accomplishment's
 - Improvements in Flood Forecasting (*D. Luna*)
- Mitigation (Structural/non-structural/Policy/Legislation changes)
 - North of the Border
 - Manitoba (*D. McNeil*)
 - South of the Border
 - US Federal (*J. DeHarnais*)
 - US State—Minnesota (*Dale Frink*)
- Summary
 - What's next? (*M. Ryan*)
- Questions



Minnesota Flood Response and Recovery Red River Valley

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Mitigation – US State



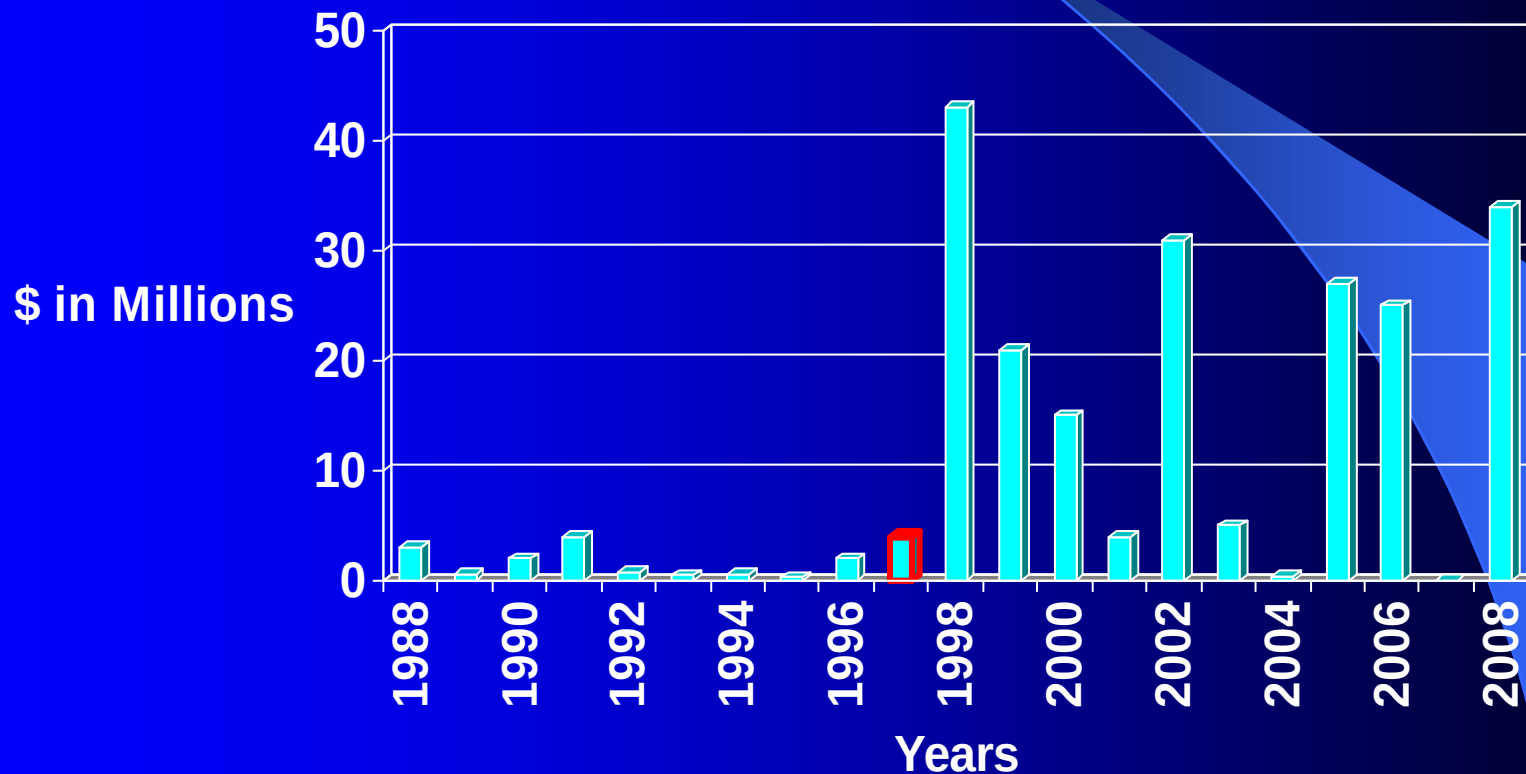
The 1997 flood changed attitudes.

**Minnesota Flood Hazard Mitigation Program
began in 1989.**

**It provides 50% state cost share for projects
that will reduce flood damages.**

**(For large projects in small communities, the
state has picked up most of the local
share.)**

Funding History for Minnesota's Flood Hazard Mitigation Program



Mitigation – US State



Structure Acquisitions

Over 2,400
Purchased
Statewide



Spring, 1997



Fall, 2000

Mitigation – US State

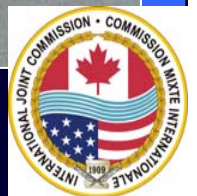
Sherlock Park in
East Grand Forks
Entire neighborhood
bought and moved
after 1997 flood



April 24, 1997
Flood Control Projects Work
Oslo, MN



Mitigation – US State



Farmstead Ring Dikes

Constructed
over 225 Farm
Ring Dikes

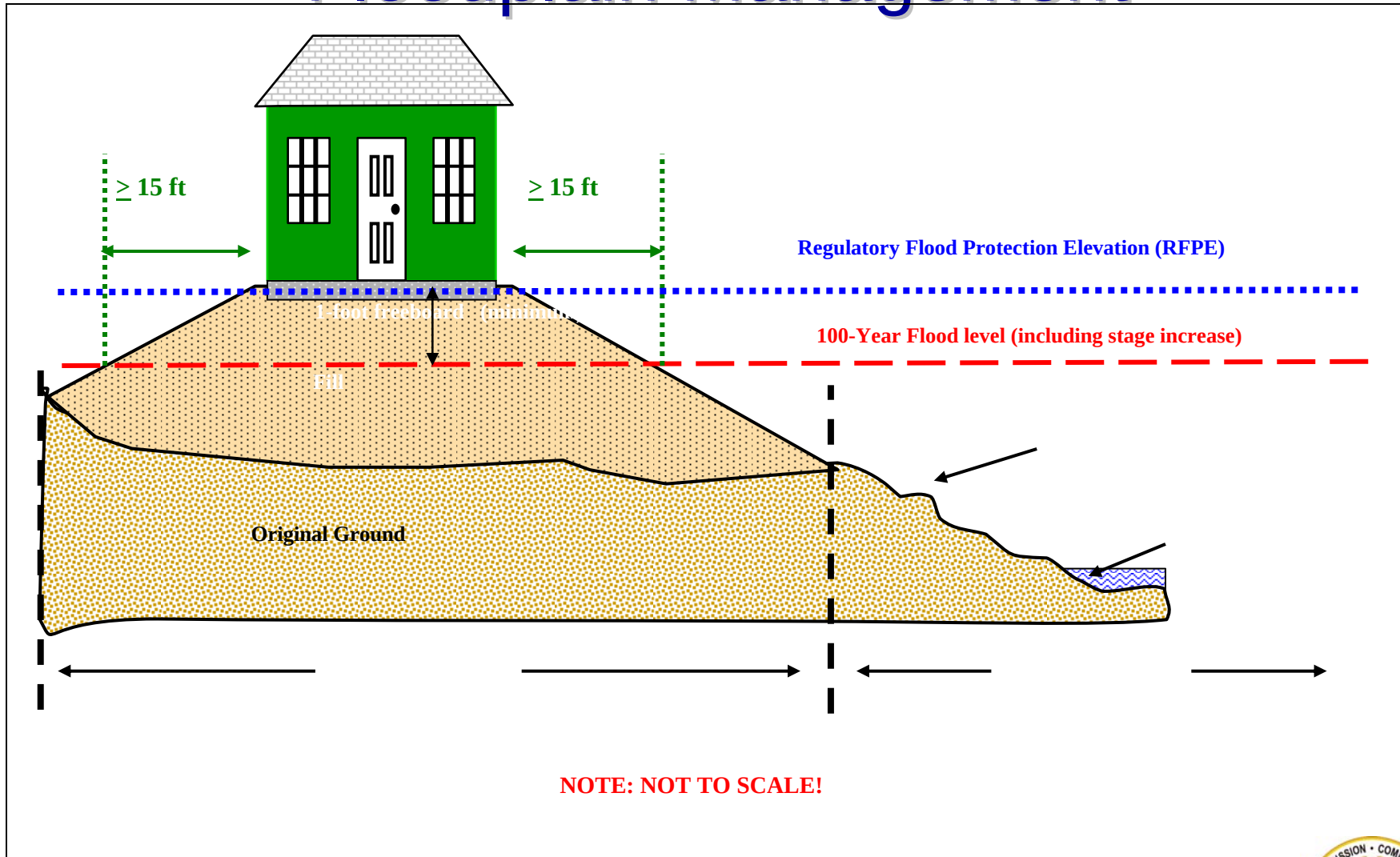


Ring Dike in Red River Valley

Mitigation – US State



Floodplain Management



Minnesota requires 1 foot of freeboard above the regulatory flood.

Mitigation – US State



Level of Protection

U.S. – 100 year flood elevation

MN – 100 year +1 foot

Netherlands

Rivers with gradient – 250 yr

Rivers – 1250 yr

North Sea – 10,000 yr



Observations

- Money flows to disasters.
- Recovery will take longer and cost more than you estimate.
- Requiring a higher level of protection should be considered.
- Flood Hazard Mitigation is cost effective.

